

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

K. Freier et al.

Serial No.: not yet assigned

Examiner: not yet assigned

Filing Date: January 23, 2002

Group Art Unit: not yet assigned

For: PROCESS FOR PRODUCING A COLD-ROLLED STRIP OR SHEET OF  
STEEL AND STRIP OR SHEET WHICH CAN BE PRODUCED BY THE  
PROCESS

Assistant Commissioner of Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Prior to examination on the merits and prior to calculating the filing fee,  
please amend the above identified application as follows:

**IN THE CLAIMS:**

Please amend claims 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, and 17 as follows:

3. Process according to Claim 1 [or 2], characterized in that the strip is cooled to  $\leq 150^{\circ}\text{C}$  after the recrystallizing annealing while coiled and subsequently subjected to brief annealing at the temperature T for an annealing period of  $\leq 20$  minutes by reheating the uncoiled strip.

4. Process according to [one of] Claim[s] 1 [to 3], characterized in that the annealing period of the brief annealing is chosen between 2 minutes and 5 minutes.

5. Process according to [one of] Claim[s] 1 [to 4], characterized in that the cooling from the temperature T is performed at a cooling rate of  $\geq 2^{\circ}\text{C/s}$ .

6. Process according to [one of] Claim[s] 1 [to 5], characterized in that the strip or sheet is dressed before the brief annealing.

7. Process according to [one of] Claim[s] 1 [to 6], characterized in that the strip or sheet is dressed after the brief annealing.

## CLEAN VERSION OF CLAIMS

3. Process according to Claim 1, characterized in that the strip is cooled to  $\leq 150^{\circ}\text{C}$  after the recrystallizing annealing while coiled and subsequently subjected to brief annealing at the temperature T for an annealing period of  $\leq 20$  minutes by reheating the uncoiled strip.

4. Process according to Claim 1, characterized in that the annealing period of the brief annealing is chosen between 2 minutes and 5 minutes.

5. Process according to Claim 1, characterized in that the cooling from the temperature T is performed at a cooling rate of  $\geq 2^{\circ}\text{C/s}$ .

6. Process according to Claim 1, characterized in that the strip or sheet is dressed before the brief annealing.

7. Process according to Claim 1, characterized in that the strip or sheet is dressed after the brief annealing.

8. Process according to Claim 1, characterized in that hot galvanizing of the sheet or strip is used as part of the brief annealing.

9. Process according to Claim 1, characterized in that a steel with a C content of  $\geq 0.02\%$  is used.

10. Process according to Claim 1, characterized by the use of a steel grade which has been selected from the steel grades St12 to St15, ZstE and ZStE1.

11. Cold-rolled strip or sheet with good deforming properties, which can be produced by the process according to Claim 1, which has a bake-hardening potential after a subsequent deformation and for a subsequent temperature treatment and with a C content of  $\geq 0.02\%$  and with cementite precipitations in the matrix and at the grain boundaries.

15. Strip or sheet according to Claim 11, characterized in that it has a hot-galvanized surface.

17. Stove-enamelled sheet, produced from a strip or sheet according to Claim 11, with a yield strength significantly increased by the stove-enamelling.

8. Process according to [one of] Claim[s] 1 [to 6], characterized in that hot galvanizing of the sheet or strip is used as part of the brief annealing.

9. Process according to [one of] Claim[s] 1 [to 8], characterized in that a steel with a C content of  $\geq 0.02\%$  is used.

10. Process according to [one of] Claim[s] 1 [to 9], characterized by the use of a steel grade which has been selected from the steel grades St12 to St15, ZstE and ZStE1.

11. Cold-rolled strip or sheet with good deforming properties, which can be produced by the process according to [one of] Claim[s] 1 [to 9], which a bake-hardening potential after a subsequent deformation and for a subsequent temperature treatment and with a C content of  $\geq 0.02\%$  and with cementite precipitations in the matrix and at the grain boundaries.

15. Strip or sheet according to [one of] Claim[s] 11 [to 14], characterized in that it has a hot-galvanized surface.

17. Stove-enamelled sheet, produced from a strip of sheet according to [one of] Claim[s] 11 [to 16], with a yield strength significantly increased by the stove-enamelling.

#### REMARKS

This amendment has been made to eliminate multiple dependency in claims 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, and 17.

Respectfully submitted,



Michael E. Whitham  
Reg. No. 32,635  
(703) 787-9400



30743

PATENT TRADEMARK OFFICE

2025-10-17 14:29:50